

CLAIMS

What is claimed is:

1. A structure comprising:
a layer which includes a first cured portion and a second cured portion which are formed from a same light curable material, said first cured portion is cured to a first amount and said second cured portion is cured to a second amount, said first amount is sufficiently different than the second amount to result in a visible discontinuity on the surface of the structure.
2. The structure of Claim 1 wherein said layer is connected to a base.
3. The structure of Claim 2 wherein said layer and said base are formed of the same material.
4. The structure of Claim 1 wherein said first amount is sufficiently different than the second amount to result a difference in the thickness of the first portion and the thickness of the second portion that is in a range of between about 0.05 and 2.0 micrometers.
5. The structure of Claim 1 wherein said light curable material is selected from a group consisting of polyesters, urethanes, epoxy acrylates and methacrylates.
6. The structure of Claim 1 wherein the base is formed from a material selected from the group consisting of polyester, polycarbonate, polyurethane, acrylic and polyvinyl chloride.
7. The structure of Claim 1 wherein said layer includes linear prisms.

8. The structure of Claim 1 wherein said layer includes a lenticular structure.
9. The structure of Claim 1 wherein said layer includes a cube-corner prism.
10. The structure of Claim 1 wherein said layer includes a sub-wavelength structure.
11. The structure of Claim 1 wherein said first cured portion is configured to represent a logo, geometric forms or alphanumerics.
12. The structure of Claim 1 wherein said first cured portion has an index of refraction that is different than the index of refraction of the second cured portion.
13. The structure of Claim 1 wherein said first cured portion has a density that is different than the density of the second cured portion.
14. The structure of Claim 1 wherein said base and said layer include the same light curable material.
15. A method for forming a pattern in a radiation curable material, comprising:
 - a) providing between a radiation source and the radiation curable material, a blocking pattern that can block a portion of the radiation from the radiation source; and
 - b) curing the material with radiation from the radiation source through the blocking pattern to form a pattern in the radiation curable material.
16. The method of Claim 15 wherein the radiation source emits ultraviolet light.

17. The method of Claim 12 wherein the radiation curable material is selected from polyesters, urethanes, epoxy acrylate and methacrylates.
18. The method of Claim 15 wherein the pattern is configured in the form of a logo, geometric form, or alphanumeric.
19. The method of Claim 15 wherein the blocking pattern is formed on a separate film.
20. The method of Claim 15 wherein the radiation curable material is connected to a base film.
21. The method of Claim 20 wherein the blocking pattern is removably placed on the base film.
22. A structure formed by the method of Claim 15.
23. A pattern transfer structure, comprising:
 - a) a radiation source for emitting radiation;
 - b) a radiation curable material that can be cured by the radiation; and
 - c) a pattern for blocking a portion of the radiation, said pattern disposed between the radiation source and the radiation curable material during the curing of the material such that a pattern is formed in the material.
24. The pattern transfer structure of Claim 23 wherein said radiation source can emit ultraviolet light.

25. The pattern transfer structure of Claim 23 wherein said radiation curable material is selected from a material consisting of polyester, epoxy acrylates, urethanes and methacrylates.
26. The pattern transfer structure of Claim 23 wherein the pattern is configured in the form of a logo, geometric forms and alphanumerics.
27. A method for forming a prism structure comprising:
- a) providing a prism mold;
 - b) placing a radiation curable material in the mold;
 - c) providing between a radiation source and the radiation curable material, a pattern that can block a portion of the radiation curable material; and
 - d) curing the radiation curable material with radiation from the radiation source to form a pattern in the radiation curable material.
28. The structure of Claim 27 wherein said first cured portion has an index of refraction that is different than the index of refraction of the second cured portion.
29. The structure of Claim 27 wherein said first cured portion has a density that is different than the density of the second cured portion.

30. A prism structure comprising:
- a) a base;
 - b) a prism array connected to said base, said prism array includes a first cured portion and a second cured portion which are formed from a same radiation curable material, said first cured portion has a first index of refraction value and said second cured portion has a second index of refraction value which is sufficiently different from said first index of refraction value to result in a visible discontinuity on the surface of the structure.

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